

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

⁵ $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfimyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

¹⁰ R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

¹⁵ In another sub-embodiment, a structure of the formula (IV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

$A = CR^8R^9$, $B = NR^{10}$, $H = O$;

²⁰ R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

²⁵ $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfimyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

In another sub-embodiment, a structure of the formula (IV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

A = CR⁸R⁹, B = CR²¹R²², E = O;

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹³ (X = O, NR¹⁴ or S);

R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²² and R²³ independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfamyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹¹ (X = O, NR¹² or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

In another sub-embodiment, a structure of the formula (IV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

A = CR⁸R⁹, B = S, E = O;

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

5 $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfamyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

10 R^1 and R^2, R^2 and R^3, R^3 and R^4, R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}, CR^{15}R^{16}CR^{17}R^{18}, CR^{15}=CR^{16}, CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

15 In another sub-embodiment, a structure of the formula (IV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

$A = CR^8R^9, B = O, E = S;$

20 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

25 $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfamyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

In another sub-embodiment, a structure of the formula (IV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

A = CR⁸R⁹, B = NR¹⁰, E = S;

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹³ (X = O, NR¹⁴ or S);

R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²² and R²³ independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfimyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹¹ (X = O, NR¹² or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

In another sub-embodiment, a structure of the formula (IV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

A = CR⁷R⁸, B = CR⁷R⁸, E = S;

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

$R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}, R^{22}$ and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$; the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

15 In another sub-embodiment, a structure of the formula (IV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

$A = CR^8R^9$, $B = S$, $E = S$;

R^{11} is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

$R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}, R^{22}$ and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

5 In another sub-embodiment, a structure of the formula (IV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

A = CR⁸R⁹; B = O, E = CR²¹R²²;

10 R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹³ (X = O, NR¹⁴ or S);

15 R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²² and R²³ independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphoryl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹¹ (X = O, NR¹² or S);

20 R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

25 In another sub-embodiment, a structure of the formula (IV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

A = CR⁸R⁹, B = NR¹⁰, E = CR²¹R²²;

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²² and R²³ independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R¹ and R², R³ and R⁴, R² and R⁵ and R⁶ and R⁵ and R⁶ can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

In another sub-embodiment, a structure of the formula (IV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

A = CR^8R^9 , B = $CR^{21}R^{22}$, E = $CR^{24}R^{25}$;

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²² and R²³ independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R¹ and R², R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

5 In another sub-embodiment, a structure of the formula (IV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

$$A = CR^8R^9, B = S, E = CR^{21}R^{22};$$

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹³ (X = O, NR¹⁴ or S);

10 R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²² and R²³ independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹¹ (X = O, NR¹² or S);

15 R¹ and R², R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

20 the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

25 In another sub-embodiment, a structure of the formula (IV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

$$A = CR^8R^9, B = O, E = NR^{16};$$

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

5 $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

10 R^1 and R^2 , R^3 and R^4 , R^5 and R^6 and R^7 and R^8 and R^9 and R^{10} can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

15 In another sub-embodiment, a structure of the formula (IV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

$A = CR^7R^8, B = NR^{10}, E = NR^{23};$

20 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

25 $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

In another sub-embodiment, a structure of the formula (IV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

$$A = CR^8R^9, B = CR^{21}R^{22}, E = NR^{10};$$

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹³ (X = O, NR¹⁴ or S);

R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²² and R²³ independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphoryl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹¹ (X = O, NR¹² or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

In another sub-embodiment, a structure of the formula (IV) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

$$A = CR^8R^9, B = S, E = NR^{10};$$

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

S $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}$, R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

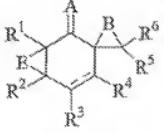
10 R^1 and R^2 , R^3 and R^4 , R^3 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

15

In a particular embodiment of the present invention, the compounds of the formula (IV) are the following species:

(IV)									
A	B	D	R^1	R^2	R^3	R^4	R^5	R^6	
O	O	O	Me	H	H	H	Me	Me	
O	O	O	<i>i</i> -Pr	H	H	H	Me	Me	
O	O	O	Ph	H	H	H	Me	Me	
O	O	O	Me	Me	H	H	Me	Me	
O	O	O	<i>i</i> -Pr	Me	H	H	Me	Me	

 (IV)									
A	B	D	R ¹	R ²	R ³	R ⁴	R ⁵	R ⁶	
O	O	O	Ph	Me	H	H	Me	Me	
O	O	O	Me	H	Me	H	Me	Me	
O	O	O	i-Pr	H	Me	H	Me	Me	
O	O	O	Ph	H	Me	H	Me	Me	
O	O	O	Me	H	H	Me	Me	Me	
O	O	O	i-Pr	H	H	Me	Me	Me	
O	O	O	Ph	H	H	Me	Me	Me	
O	O	O	Me	H	CH ₂ Ph	H	Me	Me	
O	O	O	i-Pr	H	CH ₂ Ph	H	Me	Me	
O	O	O	Ph	H	CH ₂ Ph	H	Me	Me	
O	CH ₂	O	Me	H	H	H	Me	Me	
O	CH ₂	O	i-Pr	H	H	H	Me	Me	
O	CH ₂	O	Ph	H	H	H	Me	Me	
O	CH ₂	O	Me	Me	H	H	Me	Me	
O	CH ₂	O	i-Pr	Me	H	H	Me	Me	
O	CH ₂	O	Ph	Me	H	H	Me	Me	
O	CH ₂	O	Me	H	Me	H	Me	Me	
O	CH ₂	O	i-Pr	H	Me	H	Me	Me	
O	CH ₂	O	Ph	H	Me	H	Me	Me	

A	B	D	R ¹	R ²	R ³	R ⁴	R ⁵	R ⁶	
O	CH ₂	O	Me	H	H	Me	Me	Me	
O	CH ₂	O	<i>i</i> -Pr	H	H	Me	Me	Me	
O	CH ₂	O	Ph	H	H	Me	Me	Me	
O	CH ₂	O	Me	H	CH ₂ Ph	H	Me	Me	
O	CH ₂	O	<i>i</i> -Pr	H	CH ₂ Ph	H	Me	Me	
O	CH ₂	O	Ph	H	CH ₂ Ph	H	Me	Me	

In a sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

5 R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹³ (X = O, NR¹⁴ or S);

10 R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²² and R²³ independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfamyl, sulfimyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹¹ (X = O, NR¹² or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

5

G = OR²⁶, B = O, E = O, and D = O.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹³ (X = O, NR¹⁴ or S);

10 R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²² and R²³ independently are selected from the groups that include hydrogen, alkyl, alkanyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfinyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹¹ (X = O, NR¹² or S);

15 R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

20

G = OR²⁶, B = NR⁸, E = O and D = O.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

25 R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

5 $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphoryl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

10 R^1 and R^2, R^3 and R^4, R^5 and R^6 and R^7 and R^8 and R^9 and R^{10} can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}, CR^{15}R^{16}CR^{17}R^{18}, CR^{15}=CR^{16}, CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

15 $G = OR^{26}, B = CR^8R^9, E = O$ and $D = O$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

20 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

25 $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphoryl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

5 R^1 and R^2 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

20 $G = OR^{26}$, $B = S$, $E = O$ and $D = O$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

25 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O$, NR^{14} or S);

15 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , R^{11} , R^{12} , R^{13} , R^{14} , R^{15} , R^{16} , R^{17} , R^{18} , R^{19} , R^{20} , R^{21} , R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfimyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O$, NR^{12} or S);

20 R^1 and R^2 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

25 $G = OR^{26}$, $B = O$, $E = S$, $D = O$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

30 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

⁵ $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

¹⁰ R^1 and R^2, R^2 and R^3, R^3 and R^4, R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}, CR^{15}R^{16}CR^{17}R^{18}, CR^{15}=CR^{16}, CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

¹⁵ $G = OR^{26}, B = NR^{10}, E = S$ and $D = O$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

²⁰ R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

²⁵ $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

5 G = OR²⁶, B = CR⁸R⁹, E = S, D = O.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

10 R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹³ (X = O, NR¹⁴ or S);

15 R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²² and R²³ independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphoryl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹¹ (X = O, NR¹² or S);

20 R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

25 G = OR²⁶, B = S, E = S, D = O.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

$R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}, R^{22}$ and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{14}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

$G = OR^{26}$, $B = O$, $E = CR^8R^9$ and $D = O$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

$R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}, R^{22}$ and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

5 $G = OR^{26}$, $B = NR^{10}$, $E = CR^8R^9$ and $D = O$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

10 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O$, NR^{14} or S);

15 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , R^{11} , R^{12} , R^{13} , R^{14} , R^{15} , R^{16} , R^{17} , R^{18} , R^{19} , R^{20} , R^{21} , R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O$, NR^{12} or S);

20 R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

25 $G = OR^{26}$, $B = CR^8R^9$, $E = CR^{21}R^{22}$ and $D = O$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

$R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}, R^{22}$ and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R^1 and R^2, R^3 and R^4, R^3 and R^4, R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}, CR^{15}R^{16}CR^{17}R^{18}, CR^{15}=CR^{16}, CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

$G = OR^{26}, B = S, E = CR^8R^9$ and $D = O$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

$R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}, R^{22}$ and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R¹ and R², R³ and R⁴, R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

5 G = OR²⁶, B = NR¹⁰, E = NR²³ and D = O.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

10 R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹³ (X = O, NR¹⁴ or S);

15 R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²² and R²³ independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfenyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹¹ (X = O, NR¹² or S);

20 R¹ and R², R³ and R⁴, R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

25 G = OR²⁶, B = CR⁸R⁹, E = NR¹⁰ and D = O.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

5 $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

10 R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

15 $G = OR^{26}$, $B = S$, $E = NR^{10}$ and $D = O$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

20 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

25 $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹³R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

5 G = OR²⁶; B = O, E = NR¹⁰ and D = O.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

10 R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹³ (X = O, NR¹⁴ or S);

15 R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²² and R²³ independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfamyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹¹ (X = O, NR¹² or S);

20 R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

25 G = OR²⁶, B = CR⁵R⁹, E = NR¹⁰ and D = O..

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

$R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}, R^{22}$ and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

$G = OR^{26}$; $B = O, B = O$ and $D = CR^8R^9$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

$R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}, R^{22}$ and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

5 $G = OR^{26}$, $B = NR^{10}$, $E = O$ and $D = CR^8R^9$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

10 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O$, NR^{14} or S);

15 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , R^{11} , R^{12} , R^{13} , R^{14} , R^{15} , R^{16} , R^{17} , R^{18} , R^{19} , R^{20} , R^{21} , R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O$, NR^{12} or S);

20 R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

25 $G = OR^{26}$, $B = CR^8R^9$, $E = O$, $D = CR^{21}R^{22}$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

5 $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfimyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

10 R^1 and R^2, R^2 and R^3, R^2 and R^4, R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}, CR^{15}R^{16}CR^{17}R^{18}, CR^{15}=CR^{16}, CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

15 $G = OR^{26}, B = S, E = O$, and $D = CR^8R^9$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

20 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

25 $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfimyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

5

G = OR²⁶, B = O, E = S and D = CR⁸R⁹.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, 10 cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹³ (X = O, NR¹⁴ or S);

R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, 15 R²² and R²³ independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹¹ (X = O, NR¹² or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

25

G = OR²⁶, B = NR¹⁰, E = S, D = CR⁸R⁹.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

$R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}, R^{22}$ and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

$G = OR^{26}$, $B = CR^8R^9$, $E = S$, and $D = CR^{21}R^{22}$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

$R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}, R^{22}$ and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

S

G = OR²⁶, B = S, E = S and D = CR⁸R⁹.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹³ (X = O, NR¹⁴ or S);

R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²² and R²³ independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphoryl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹¹ (X = O, NR¹² or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

25

G = OR²⁶; B = O, E = CR⁸R⁹ and D = CR²¹R²².

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

5 $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

10 R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

15 $G = OR^{26}$, $B = NR^{16}$, $E = CR^9R^8$ and $D = CR^{21}R^{22}$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

20 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

25 $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹³R¹⁶, CR¹³R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

5 G = OR²⁶, B = CR⁹R⁸, E = CR²¹R²² and D = CR²⁵R²⁴.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

10 R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹³ (X = O, NR¹⁴ or S);

15 R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²² and R²³ independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹¹ (X = O, NR¹² or S);

20 R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

25 G = OR²⁶, B = S, E = CR⁹R⁸ and D = CR²¹R²².

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

$R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}, R^{22}$ and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfamyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R^1 and R^2, R^3 and R^4, R^5 and R^6 and R^7 and R^8 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}, CR^{15}R^{16}CR^{17}R^{18}, CR^{15}=CR^{16}, CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

$G = OR^{26}; B = O, E = NR^{10}$ and $D = CR^9R^8$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

$R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}, R^{22}$ and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfamyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

5 R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

10 $G = OR^{26}$, $B = NR^{10}$, $E = NR^{23}$ and $D = CR^9R^8$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

15 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O$, NR^{14} or S);

20 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , R^{11} , R^{12} , R^{13} , R^{14} , R^{15} , R^{16} , R^{17} , R^{18} , R^{19} , R^{20} , R^{21} , R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O$, NR^{12} or S);

25 R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

25 $G = OR^{26}$, $B = CR^9R^8$, $E = NR^{10}$ and $D = CR^{21}R^{22}$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

5 $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphoryl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

10 R^1 and R^2, R^2 and R^3, R^3 and R^4, R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}, CR^{15}R^{16}CR^{17}R^{18}, CR^{15}=CR^{16}, CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

15 $G = OR^{26}, B = S, E = NR^{10}$ and $D = CR^9R^8$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

20 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

25 $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphoryl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

5 R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

10 $G = NR^{28}R^{29}$, $B = O$, $E = O$, $D = O$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

15 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O$, NR^{14} or S);

20 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , R^{11} , R^{12} , R^{13} , R^{14} , R^{15} , R^{16} , R^{17} , R^{18} , R^{19} , R^{20} , R^{21} , R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O$, NR^{12} or S);

25 R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

25 $G = NR^{27}R^{28}$, $B = NR^{10}$, $E = O$ and $D = O$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

30 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

5 $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfamyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

10 R^1 and R^2, R^3 and R^4, R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}, CR^{15}R^{16}CR^{17}R^{18}, CR^{15}=CR^{16}, CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

15 $G = NR^{27}R^{28}, B = CR^9R^8, E = O$ and $D = O$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

20 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

25 $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfamyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

5 $G = NR^{27}R^{28}$, $B = S$, $E = O$ and $D = O$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O$, NR^{14} or S);

10 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , R^{11} , R^{12} , R^{13} , R^{14} , R^{15} , R^{16} , R^{17} , R^{18} , R^{19} , R^{20} , R^{21} , R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfamyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O$, NR^{12} or S);

15 R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

20 $G = NR^{27}R^{28}$, $B = O$, $E = S$, $D = O$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

5 $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

10 R^1 and R^2, R^3 and R^4, R^5 and R^6 and R^7 and R^8 and R^9 and R^{10} can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}, CR^{15}R^{16}CR^{17}R^{18}, CR^{15}=CR^{16}, CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

15 $G = NR^{27}R^{28}, B = NR^{10}, E = S$ and $D = O$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

20 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

25 $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

5 R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

10 $G = NR^{27}R^{28}$, $B = CR^9R^8$, $E = S$ and $D = O$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

15 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O$, NR^{14} or S);

20 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , R^{11} , R^{12} , R^{13} , R^{14} , R^{15} , R^{16} , R^{17} , R^{18} , R^{19} , R^{20} , R^{21} , R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkienyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O$, NR^{12} or S);

25 R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

25 $G = NR^{27}R^{28}$, $B = S$, $E = S$ and $D = O$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

30 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

⁵ $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

¹⁰ R^1 and R^2, R^2 and R^3, R^3 and R^4, R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}, CR^{15}R^{16}CR^{17}R^{18}, CR^{15}=CR^{16}, CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

¹⁵ $G = NR^{27}R^{28}, B = O, E = CR^9R^8$ and $D = O$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

²⁰ R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

²⁵ $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

5 $G = NR^{27}R^{28}$, $B = NR^{10}$, $E = CR^9R^8$ and $D = O$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

10 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O$, NR^{14} or S);

15 R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , R^{11} , R^{12} , R^{13} , R^{14} , R^{15} , R^{16} , R^{17} , R^{18} , R^{19} , R^{20} , R^{21} , R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O$, NR^{12} or S);

20 R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

25 $G = NR^{27}R^{28}$, $B = CR^9R^8$, $E = CR^{21}R^{22}$ and $D = O$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O$, NR^{14} or S);

R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , R^{11} , R^{12} , R^{13} , R^{14} , R^{15} , R^{16} , R^{17} , R^{18} , R^{19} , R^{20} , R^{21} , R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O$, NR^{12} or S);

R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{12}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

$G = NR^{27}R^{28}$, $B = S$, $E = CR^9R^8$ and $D = O$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O$, NR^{14} or S);

R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , R^{11} , R^{12} , R^{13} , R^{14} , R^{15} , R^{16} , R^{17} , R^{18} , R^{19} , R^{20} , R^{21} , R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O$, NR^{12} or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

5 G = NR²⁷R²⁸, B = O, E = NR¹⁰ and D = O.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

10 R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹³ (X = O, NR¹⁴ or S);

15 R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²² and R²³ independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfonyl, sulfinyl, sulfamanyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphimyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹¹ (X = O, NR¹² or S);

20 R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

25 G = NR²⁷R²⁸, B = NR¹⁰, E = NR²³ and D = O.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

$R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}, R^{22}$ and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R^1 and R^2, R^2 and R^3, R^3 and R^4, R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}, CR^{15}R^{16}CR^{17}R^{18}, CR^{13}=CR^{16}, CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

$G = NR^{27}R^{28}, B = CR^9R^8, E = NR^{10}$ and $D = O$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

$R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}, R^{22}$ and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

5 G = NR⁷R⁸, B = S, E = NR⁷ and D = O.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

10 R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹³ (X = O, NR¹⁴ or S);

15 R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²² and R²³ independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfamyl, sulfaminy, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹¹ (X = O, NR¹² or S);

20 R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

25 the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

G = NR⁷R⁸, B = O, E = O and D = CR⁷R⁸.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

30 R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

$R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}, R^{22}$ and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphoryl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

$G = NR^7R^8$, $B = NR^8$, $E = O$, and $D = CR^7R^8$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

$R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}, R^{22}$ and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphoryl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

5 G = NR⁷R⁸, B = CR⁷R⁸, E = O, and D = CR⁷R⁸.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

10 R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹³ (X = O, NR¹⁴ or S);

15 R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²² and R²³ independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹¹ (X = O, NR¹² or S);

20 R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

25 the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

G = NR⁷R⁸, B = S, E = O and D = CR⁷R⁸.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

30 R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O$, NR^{14} or S);

R^7 , R^3 , R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , R^{11} , R^{12} , R^{13} , R^{14} , R^{15} , R^{16} , R^{17} , R^{18} , R^{19} , R^{20} , R^{21} , R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O$, NR^{12} or S);

R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

$G = NR^7R^8$, $B = O$, $E = S$ and $D = CR^7R^8$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O$, NR^{14} or S);

R^2 , R^3 , R^4 , R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , R^{11} , R^{12} , R^{13} , R^{14} , R^{15} , R^{16} , R^{17} , R^{18} , R^{19} , R^{20} , R^{21} , R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O$, NR^{12} or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

5 G = NR⁷R⁸, B = NR⁸, E = S and D = CR⁷R⁸.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹³ (X = O, NR¹⁴ or S);

10 R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²² and R²³ independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfamyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹¹ (X = O, NR¹² or S);

15 R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

20 the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

25 G = NR⁷R⁸, B = CR⁷R⁸, E = S and D = CR⁷R⁸.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

$R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}, R^{22}$ and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R^1 and R^2 , R^2 and R^3 , R^3 and R^4 , R^4 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

$G = NR^7R^8$, $B = S$, $E = S$ and $D = CR^7R^8$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

$R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}, R^{22}$ and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

5 G = NR⁷R⁸, B = O, E = CR⁷R⁸ and D = CR⁷R⁸.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

10 R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹³ (X = O, NR¹⁴ or S);

15 R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²² and R²³ independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfamyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹¹ (X = O, NR¹² or S);

20 R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

25 the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

G = NR⁷R⁸, B = NR⁸, E = CR⁷R⁸ and D = CR⁷R⁸.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

$R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}, R^{22}$ and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphoryl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R^1 and R^2, R^2 and R^3, R^3 and R^4, R^4 and R^5 and R^5 and R^6 can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}, CR^{15}R^{16}CR^{17}R^{18}, CR^{15}=CR^{16}, CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

$G = NR^7R^8, B = CR^7R^8, E = CR^7R^8$ and $D = CR^7R^8$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

$R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21}, R^{22}$ and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphoryl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

5 G = NR⁷R⁸, B = S, E = CR⁷R⁸ and D = CR⁷R⁸.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

10 R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹³ (X = O, NR¹⁴ or S);

15 R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²² and R²³ independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfamyl, sulfanyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹¹ (X = O, NR¹² or S);

20 R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

25 the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

G = NR⁷R⁸, B = O, E = NR⁷ and D = CR⁷R⁸.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide,

a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

5 $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

10 R^1 and R^2, R^3 and R^4, R^5 and R^6 and R^7 and R^8 and R^9 and R^{10} can also each be comprised of one or two $CR^{13}R^{14}$ groups, connected by a tether, independently selected from $CR^{15}R^{16}$, $CR^{15}R^{16}CR^{17}R^{18}$, $CR^{15}=CR^{16}$, $CR^{15}R^{16}O$ or $CR^{15}R^{16}NR^{17}$;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

15 $G = NR^7R^8, B = NR^8, E = NR^7$ and $D = CR^7R^8$.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

20 R^1 is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{13} ($X = O, NR^{14}$ or S);

25 $R^2, R^3, R^4, R^5, R^6, R^7, R^8, R^9, R^{10}, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16}, R^{17}, R^{18}, R^{19}, R^{20}, R^{21},$
 R^{22} and R^{23} independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfinyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR^{11} ($X = O, NR^{12}$ or S);

R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

5 G = NR⁷R⁸, B = CR⁷R⁸, E = NR⁷ and D = CR⁷R⁸.

In another sub-embodiment, a structure of the formula (V) is given wherein the compound or its pharmaceutically acceptable salts or prodrug is defined as follows:

10 R¹ is selected independently from the groups that include hydrogen, alkyl, cycloalkyl, aryl, alkaryl, arylalkyl, heterocyclic, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹³ (X = O, NR¹⁴ or S);

15 R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²² and R²³ independently are selected from the groups that include hydrogen, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, alkaryl, arylalkyl, heterocyclic, sulfonyl, sulfanyl, sulfimyl, sulfamonyl, carboxylic acid, amide, nitro, cyano, azide, phosphonyl, phosphinyl, phosphoryl, phosphine, carbamate, ester, alkcarbonyl, carbonyl, halide, a residue of a natural or synthetic amino acid, or carbohydrate or XR¹¹ (X = O, NR¹² or S);

20 R¹ and R², R² and R³, R³ and R⁴, R⁴ and R⁵ and R⁵ and R⁶ can also each be comprised of one or two CR¹³R¹⁴ groups, connected by a tether, independently selected from CR¹⁵R¹⁶, CR¹⁵R¹⁶CR¹⁷R¹⁸, CR¹⁵=CR¹⁶, CR¹⁵R¹⁶O or CR¹⁵R¹⁶NR¹⁷;

the dotted line indicates the presence of either a single or double bond, wherein in the presence of a single bond, the valences are completed with hydrogens.

25 G = NR⁷R⁸, B = S, E = NR⁷ and D = CR⁷R⁸.